
Attendant consoles

This section describes installation instructions for the QCW and M1250/2250 attendant consoles. For Meridian 1 Attendant PC Software installation instructions, refer to the *Meridian 1 Attendant PC Installation Guide*.

Packing and unpacking

Use proper care while unpacking any attendant console. Check for damaged containers so that appropriate claims can be made to the transport company for items damaged in transit.

If an attendant console must be returned to the factory, pack it in the appropriate container to avoid damage during transit. Remember to include all loose parts (cords, handset, power unit, labels, and lenses) in the shipment.

Installation and removal

Use the following procedures to install and remove QCW and M1250 attendant consoles.

Note: Although QCW and M1250/M2250 attendant consoles do not require a static discharge ground connection, the connection should be installed to protect any earlier vintage attendant consoles that may be used as replacements.

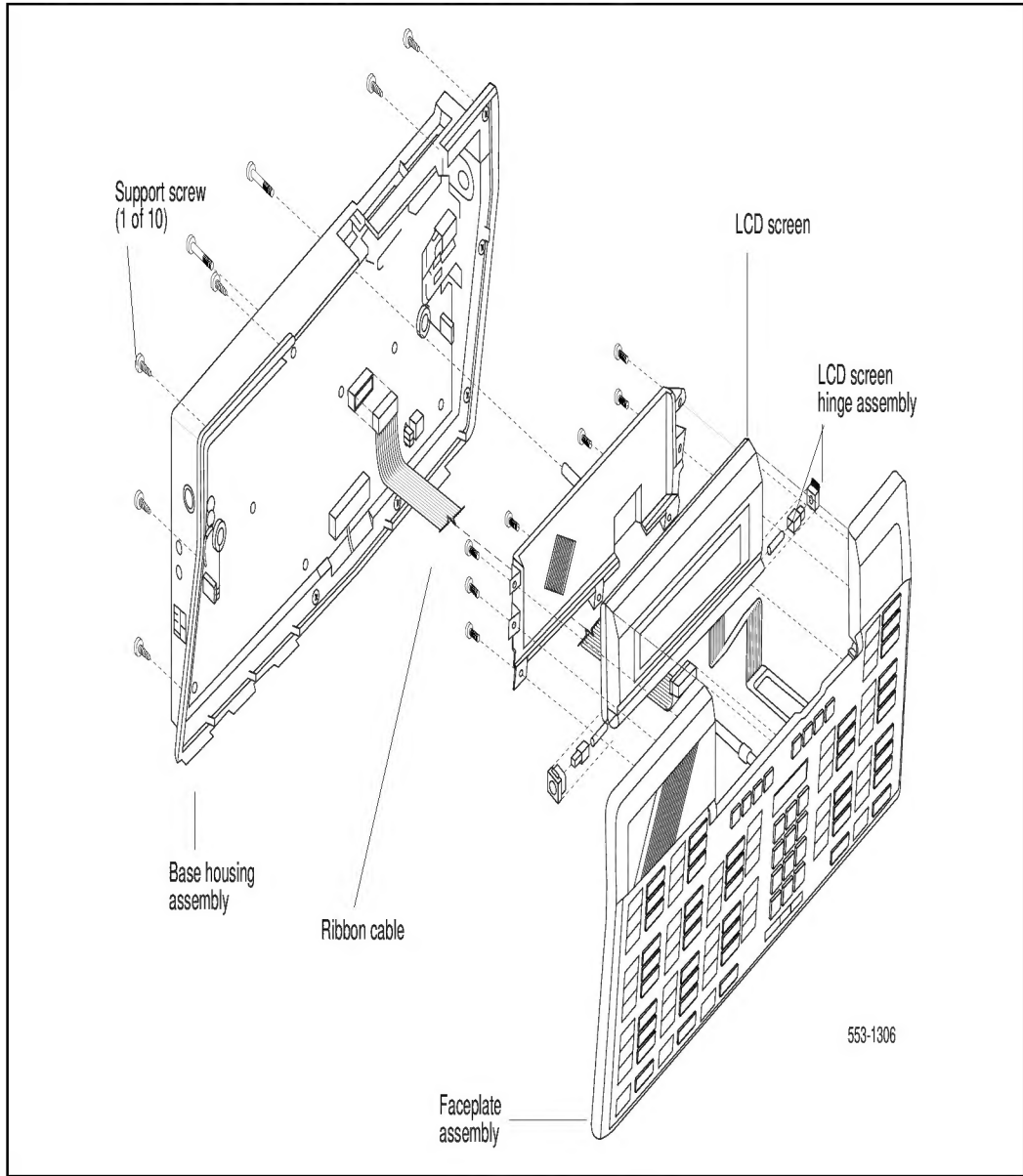
Choose a clean, level work surface and place several sheets of soft, clean paper between the attendant console and the work surface. This will prevent scratching or otherwise damaging the top cover, the liquid crystal display (LCD) indicators and screen, and the feature keys of the attendant console.

Procedure 2
Installing QCW attendant consoles

- 1 Ensure that a 16-pair or 25-pair cable equipped with a 25-pair Amphenol connector is installed at the attendant console's location.
- 2 Unpack and inspect the attendant console for damage. If the attendant console is damaged, notify your supplier.
- 3 Designate the attendant console according to the features provided (see [Procedure 8](#) and [Figure 6](#)).
- 4 Connect the Amphenol connector on the attendant console line cord to the Amphenol connector on the attendant console cable.
- 5 Cross-connect the attendant console at the cross-connect terminal (see [Procedure 9](#)).
- 6 Using a minimum of 24 AWG cross-connect wire, connect a static discharge ground (use a water pipe or the building main ground system) to pins 15 and 40 (slate-black pair) of the attendant console cable at the cross-connect terminal nearest the attendant console location. Connect the ground within 200 ft (68 m) of the attendant console using an approved ground connector or a clamp. Do not connect the attendant console to the Meridian 1 system ground.
- 7 Remove the cover from the attendant console:
 - Place the attendant console on a desk with the front edge slightly beyond the edge of the desk.
 - Insert a paper clip into each release hole in the front edge of the attendant console housing.
 - Press the releaser through the release hole inward against the cover until the cover releases.
 - Lift off the cover.
 - Unscrew the captive retaining screws securing the cover to the housing.
 - Remove the cover.

- 8** With a voltmeter, measure the AC and DC voltages between the metal frame of the attendant console and the quick-connect terminal VSS1A on the lower left side of the attendant console circuit board.
- Make sure that the voltage measurements are less than ± 40 V. If the voltage is greater than ± 40 V, grounding is inadequate and a better ground must be connected.
- 9** Replace the attendant console cover:
- Place the attendant console on a desk with the front edge slightly beyond the edge of the desk.
 - Fit the cover to the housing and tighten the captive retaining screws.
 - Position the faceplate so that the keys will pass through the cutouts in the cover.
 - Tilt the back edge of the cover toward the rear of the attendant console and insert the locating tabs into the slots on the attendant console cover.
 - Keeping the locating tabs in the slots, tilt the front edge of the cover down, passing the keys through the cutouts in the cover.
 - Press the front edge of the faceplate down until the cover catches snap into place.
 - Ensure that the cover is securely held in place without binding the keys.
- 10** Configure the attendant console in the Meridian 1 system. Refer to the *X11 input/output guide* (553-3001-400).

Figure 6
Typical QCW-type attendant console faceplate layout



Procedure 3**Installing the M1250/M2250 attendant consoles**

- 1 Ensure that a 16-pair or 25-pair cable equipped with a 25-pair Amphenol connector is installed at the attendant console's location.
- 2 Unpack and inspect the attendant console for damage. If the console is damaged, notify your supplier.
- 3 Designate the console according to the features provided (see [Figures 7](#) and [8](#)).
- 4 Connect the Amphenol plug on the attendant console to the Amphenol jack coming from the Main Distribution Frame (MDF).
 - Fasten the Amphenol connectors together and secure the captive screws on the cable.
 - Ensure that the connectors are secured in a connector mounting, if provided, or to the wall. Do not leave connectors unprotected on the floor.
- 5 Add a line circuit for the attendant console, if not already done. Refer to *Circuit card installation and testing* (553-3001-211).
- 6 Cross-connect the attendant console at the cross-connect terminal (see [Procedure 9](#)).
- 7 Enter the related attendant console data in the Meridian 1 system. Refer to the *X11 input/output guide* (553-3001-400).
- 8 Test the console features using the attendant console user guide.

Note: Refer to *Circuit card installation and testing* (553-3001-211) for circuit card installation procedures.

Procedure 4

Removing the M1250 and M2250 attendant consoles

- 1 Remove related attendant console data from the system memory. Refer to the *X11 input/output guide* (553-3001-400).
- 2 Locate and remove cross-connections from the attendant console cable at the cross-connect terminal (see [Procedure 9](#)).
- 3 Remove the circuit card if required. Refer to *Circuit card installation and testing* (553-3001-211).

Note: Do not remove the circuit card if any of the remaining units on the card are assigned.

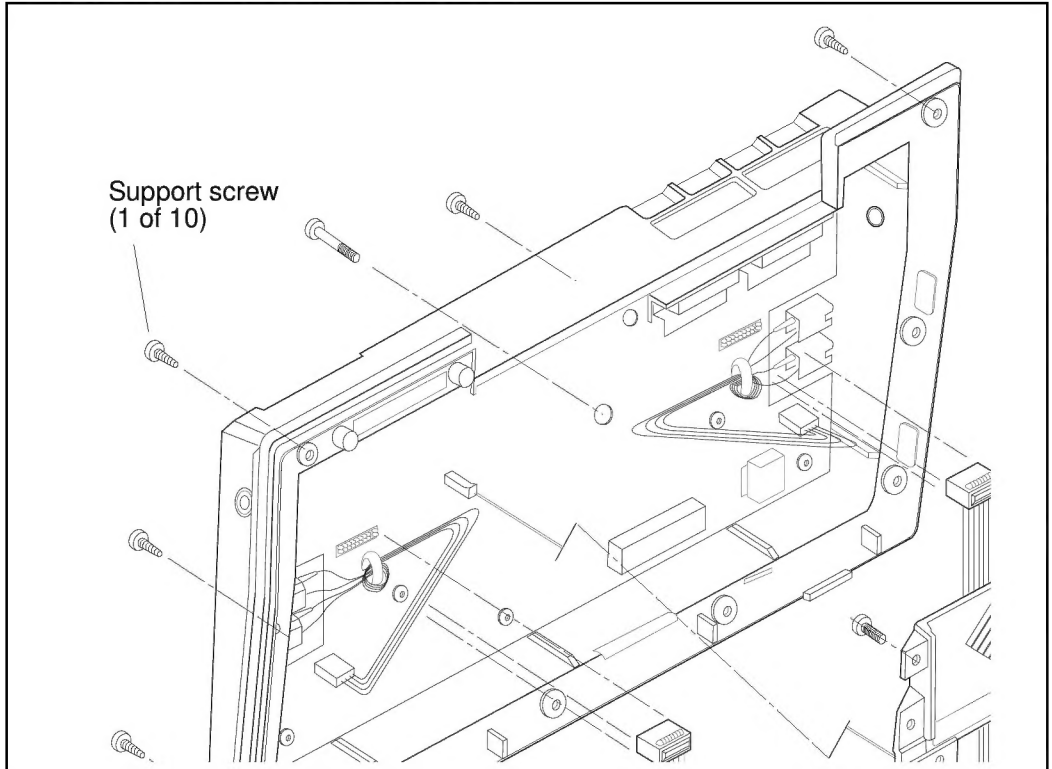
- 4 Disconnect the Amphenol connector on the end of the cable that leads to the cross-connect terminal from the connector on the cable leading to the attendant console.
- 5 Pack the attendant console, handset, and cords in a suitable container.

Procedure 5

Removing the M1250/M2250 attendant console top cover

- 1 Disconnect any plugs and cords from the attendant console.
- 2 Remove the ten 10-mm fastening screws in the flange of the attendant console, as well as one 10-mm and one 40-mm screw on the base of the attendant console (see [Figures 7](#) and [8](#)).
- 3 Holding the top cover and the base together by hand, turn the attendant console right-side up and place it back on the work surface.
- 4 Carefully lift the faceplate straight up and disconnect the following cable connections:
 - on the M1250
 - J1—16-pin plug ribbon cable
 - J2—16-pin plug ribbon cable
 - on the M2250
 - J2—20-pin plug ribbon cable

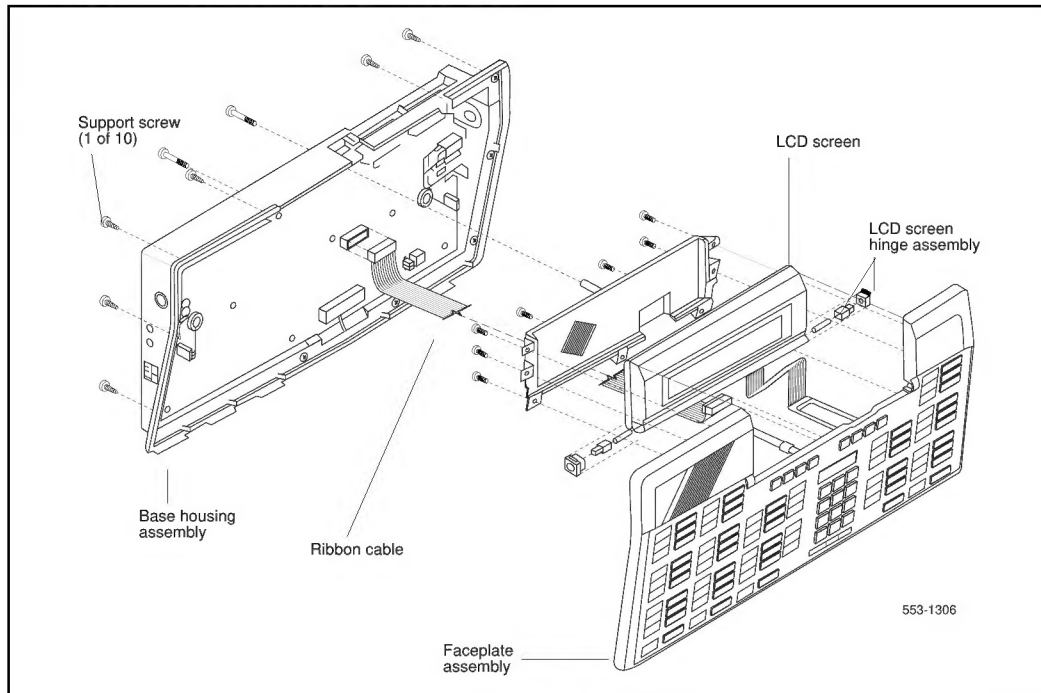
Figure 7
M1250 assembly drawing (exploded view)



When you are setting the QMT2 switch on the M1250 attendant console's PCB, ON indicates that the QMT2 is enabled, and OFF indicates it is disabled (see [Procedure 6](#)). You can query the status of the switch by going to the Diagnostics menu and selecting the QMT2 option. The Display menu CHANGE feature provides only a temporary change to the QMT2 status.

Note: On attendant consoles with a digit display attached to the top cover, do not connect or disconnect the cable to the digit display unless the attendant console line cord is disconnected.

Figure 8
M2250 assembly drawing (exploded view)



Procedure 6**Installing the M1250/M2250 attendant console top cover**

- 1** Set the QMT2 dip switch. To locate the dip switch, look at the attendant console from the top. The QMT2 dip switch is the only dip switch on the topmost circuit board. Set the switch to ON (enable QMT2) or OFF (disable QMT2).

Note: The QMT2 feature must be enabled in system software. Refer to LD 12 in the *X11 input/output guide* (553-3001-400).

- 2** Carefully lift the top cover straight up and make the following cable connections:
 - on the M1250
 - J1—16-pin plug ribbon cable
 - J2—16-pin plug ribbon cable
 - J7—2-pin speaker lead
 - on the M2250
 - J2—20-pin plug ribbon cable
- 3** Put the top cover back on the attendant console:
 - Place the top cover onto the base housing, and turn the attendant console upside down.
 - Reinsert and tighten the ten 10-mm fastening screws on the flange.
 - Reinsert and tighten one 10-mm and one 40-mm fastening screw on the back.
- 4** Return the attendant console to its working position, reconnect the plugs and cords, and test the features.

Procedure 7

Loopback test on the M1250 and M2250 attendant consoles

- 1** Make a loopback connector. Prepare a blank 25-way RS-232 plug by internally connecting pins 2 and 3 together with strapping wire.
- 2** Press the Shift key. This accesses Level 1 mode.
- 3** Press the F4 Function key to access the Diagnostics menu on the liquid crystal display (LCD) screen.
- 4** Plug the loopback connector into the Data Port RS-232 jack in the back of the console.
- 5** Select the Data Port option from the Diagnostics menu by dialing "3". The LCD screen displays OK when the test is successfully completed.

If there is a hardware fault in the M1250, 90H is displayed. If there is a hardware fault on the M2250, A0H is displayed.

If the blank RS-232 connector is not plugged into the data port correctly (Step 4), the display will read 90H or A0H.
- 6** Press the Asterisk (*) key to repeat the test.
- 7** To exit the test mode press the octothorpe (#). This returns you to the main Diagnostics menu.
- 8** Press the octothorpe to return to normal operating mode.
- 9** Remove the loopback connector from the Data Port RS-232 jack.

Designating attendant consoles

Refer to the work order to determine the features and key designations for each attendant console. Designate each key on the attendant console by placing its feature name (from the designation sheet) in the key cap that fits on the key.

For the QCW-type attendant console, the directory number (DN) designation window is located beneath the keypad on the face of the attendant console. The DN designation window on the M1250 attendant console is located above the keypad.

Procedure 8 **Designating attendant consoles**

- 1** Remove the cap from each key requiring a designation by gently pulling upward on the cap.
- 2** Remove the appropriate designation from the sheet of designations.
- 3** Place the designation in the cap, place the cap over the corresponding key, and gently press down. Repeat this procedure for all keys requiring designations.
- 4** Insert a paper clip in the hole at the left or right end of the DN designation window. Pry the window open.
- 5** Insert the number tag, and replace the designation window.

The following figures show the typical key designations for QCW-type and M1250 attendant consoles:

- [Figure 9](#) shows the QCW attendant console designations.
- [Figures 10](#) and [11](#) show the key designations for the M1250/M2250 attendant console in Shift mode.
- [Figures 12](#) and [13](#) show the M1250/M2250 attendant console in Unshift mode.

Figure 9
Typical key designations for the QCW attendant console

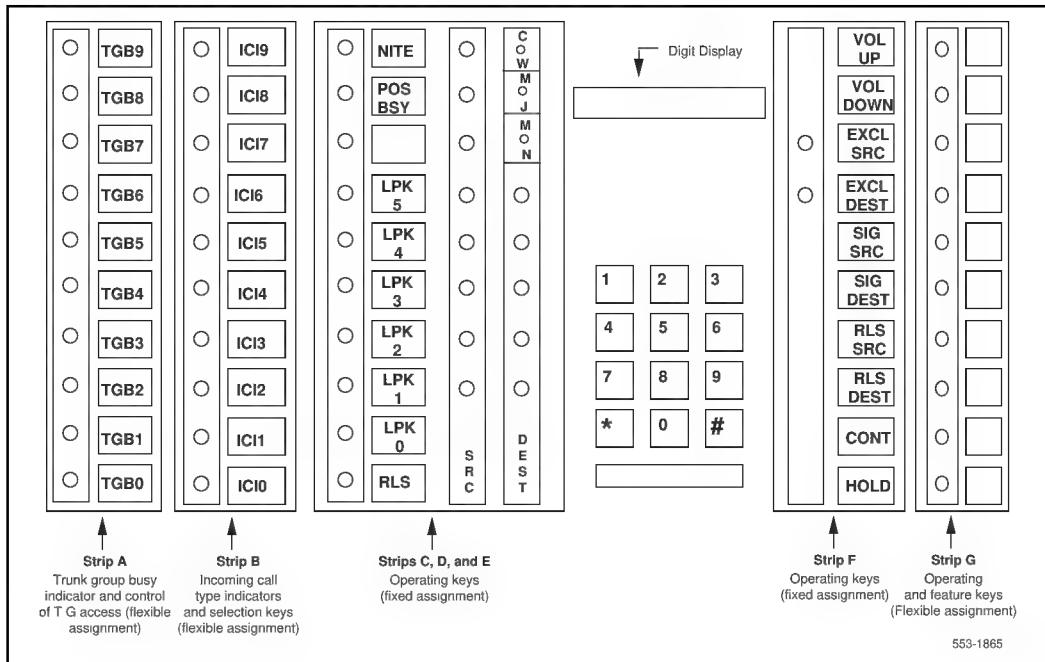


Figure 10
M1250/M2250 key designations in Shift mode (QMT2 not enabled)

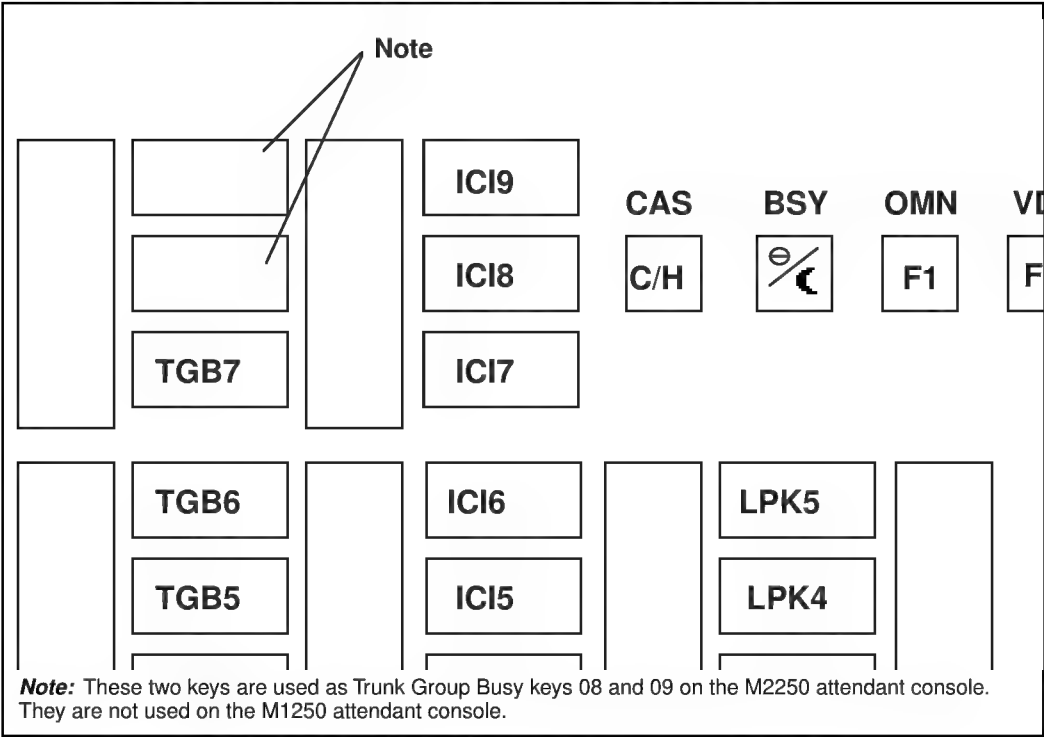


Figure 11
M1250/M2250 key designations in Shift mode (QMT2 enabled)

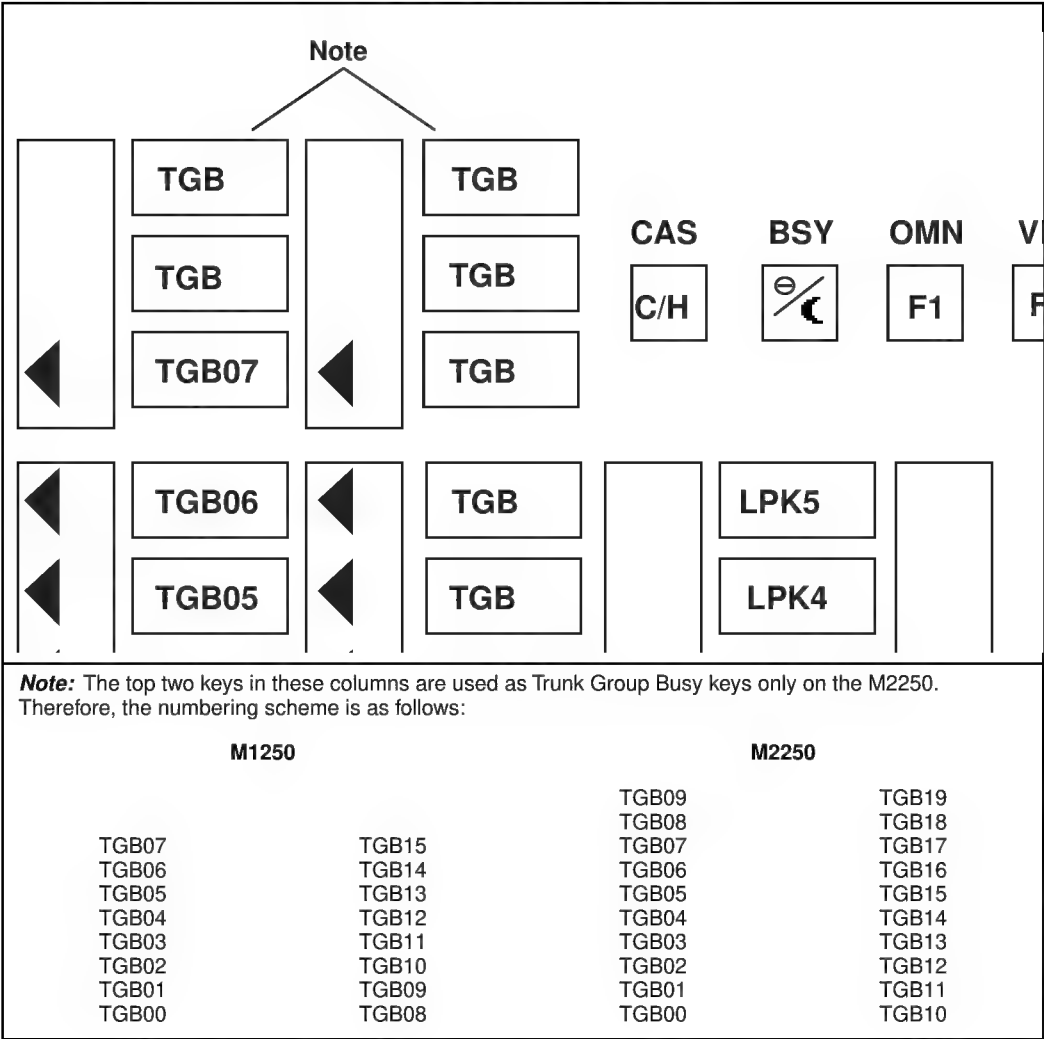


Figure 12
M1250/M2250 key designations in Unshift mode (QMT2 enabled)

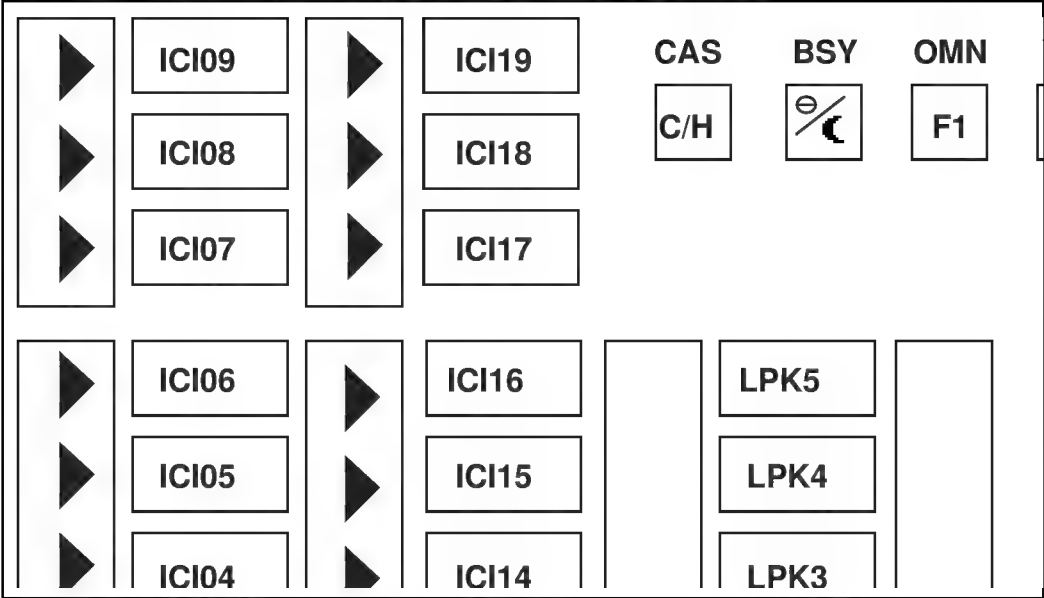
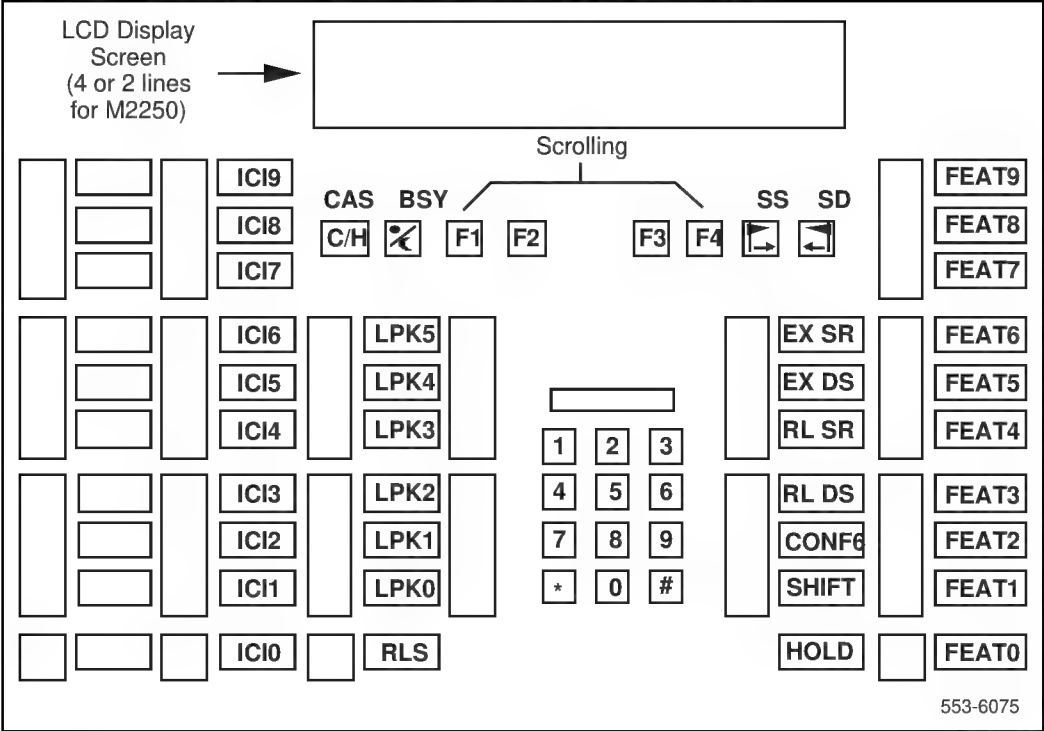


Figure 13
M1250/M2250 designations in Unshift mode (QMT2 not enabled)



Cross-connecting attendant consoles

Terminations are located on the vertical side of the distributing frame when frame-mounted blocks are used and in the blue field when wall-mounted blocks are used.

Line circuit card (TN) terminations are located on the horizontal side of the distributing frame when frame-mounted blocks are used and in the white field when wall-mounted blocks are used.

Procedure 9

Cross-connecting attendant consoles

- 1** Locate the attendant console terminations at the cross-connect terminal.
- 2** Connect Z-type cross-connecting wire to the leads of the attendant console.
- 3** Locate the line circuit card (TN) terminations.
- 4** Run and connect the other end of the cross-connecting wire to the assigned TN terminal block.

See [Table 2](#) for details on Z-type cross-connecting wire and [Table 3](#) for a list of inside wiring colors.

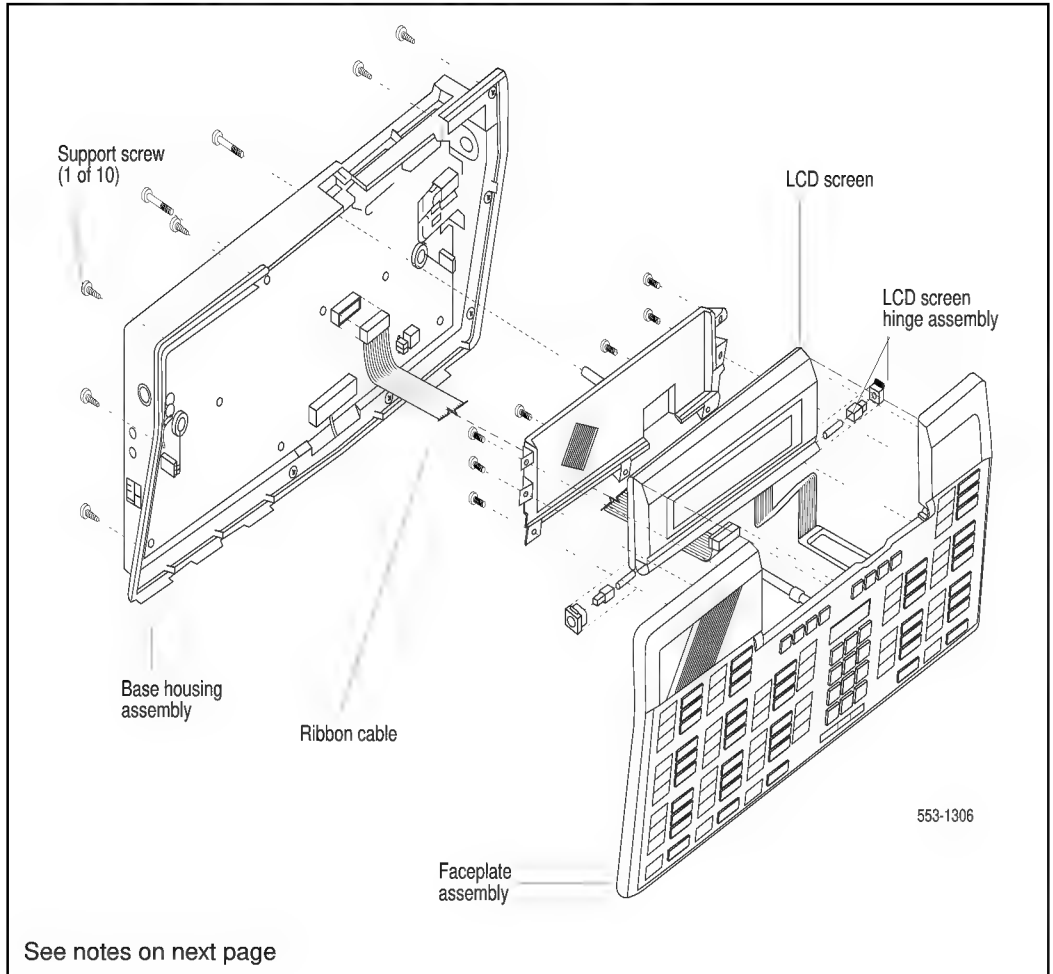
Table 2
Z-type cross-connecting wire

Size	Gauge	Color	Designation
1 pr	24	Y-BL	Tip
		BL-Y	Ring
3 pr	24	W-BL	Voice T
		BL-W	Voice R
		W-O	Signal T
		O-W	Signal R
		W-G	Power
		G-W	Power

Table 3
Inside wiring colors

Z station wire	16/25-pair cable	Connect to equipment TN
G	W-BL	First pair Tip
R	BL-W	First pair Ring
BK	W-O	Second pair Tip
Y	O-W	Second pair Ring

Figure 14
QCW and M1250 attendant console cross-connections



The following notes refer to [Figure 14](#), which illustrates QCW and M1250 attendant console cross-connections. For a listing of the QCW and M1250 attendant console cross-connections, see [Table 4](#).

Note 1: Attendant consoles require 24 V of power. Attendant consoles equipped with the QMT3 module require 15 V of power in addition to the 24 V power supply.

Note 2: You can obtain 24 V of power from the following:

- 24 V transformers located within 25 ft (7.7 m) of the console. A separate transformer is required for each attendant console.
- QUT1 or QUAA1 centralized power supply. A separate fuse is required for each attendant console.
- Two circuits with a maximum loop resistance of 300 Ω . This cross-connection must not be used if the power is obtained from a source other than the Meridian 1 line circuit.

Note 3: (M1250) Connect to a solid ground (not the Meridian 1 system ground). The maximum distance between the ground source and the attendant console must be less than 200 ft (61 m). Run the ground directly to the console cable connector if the connection through the cross-connector exceeds 200 ft (61 m).

Note 4: When the BLF/CGM option is used on the M1250, an additional 16 V dc power supply must be cabled through the +VPS (pin 16) and the +VPS RTN (pins 42 and 17) wires. The maximum loop limit from the attendant console to the connector is 120 ft (36 m) at 24 AWG.

Table 4
QCW and M1250 attendant console cross-connections (Part 1 of 2)

Mounting cord	16/25-pair Connector Cable				
Lead designation	Pin number	Pin number	Pair number	Color	Connected to
Voice 1 (SRC)	26	26	1T	W-BL	First pair of TN #1
	1	1	R	BL-W	
Signal 1 (SRC)	27	27	2T	W-O	Second pair of TN #1
	2	2	R	O-W	
Spare	28	28	3T	W-G	
	3	3	R	G-W	
15 V of power	29	29	4T	W-BR	P0547128 (Note 1)
15 V of power	4	4	R	BR-W	Plug-in transformer
25 V of power	30	30	5T	W-S	P0547127 (Notes 1 and 2) Plug-in transformer
25 V of power	5	5	R	S-W	
Spare	31	31	6T	R-BL	
	6	6	R	BL-R	
Voice 2	32	32	7T	R-O	First pair of TN #2
Voice (DEST)	7	7	R	O-R	
Signal 2	33	33	8T	R-G	Second pair of TN #2
Signal (DEST)	8	8	R	G-R	
GRD 11.8 V	34	34	9T	R-BR	QUAA2 power supply (QCW5 only)
	9	9	R	BR-R	
GRD 11.8 V	35	35	10T	R-S	QUAA5 power supply (QCW5 only)
	10	10	R	S-R	

Table 4
QCW and M1250 attendant console cross-connections (Part 2 of 2)

Mounting cord	16/25-pair Connector Cable				
Lead designation	Pin number	Pin number	Pair number	Color	Connected to
Emergency transfer	36	36	11T	BK-BL	GND (Note 3)
	11	11	R	BL-BK	TC (Note 4)
Spare	37	37	12T	BK-O	
Spare	12	12	R	O-BK	
Spare	38	38	13T	BK-G	
Spare	13	13	R	G-BK	
Major	39	39	14T	BK-BR	GND (Note 3)
Alarm	14	14	R	BR-BK	ALM (Note 4)
GND	40	40	15T	BK-S	See static discharge
				GND	
GND spare	15	15	R	S-BK	Installation procedure
	41	42–45	16T	Y-BL	
	16	16–2	R	BL-Y	

Note 1: The 15-V and 25-V supplies can be obtained at the cross-connect terminal when a QUT1 power supply is provided.

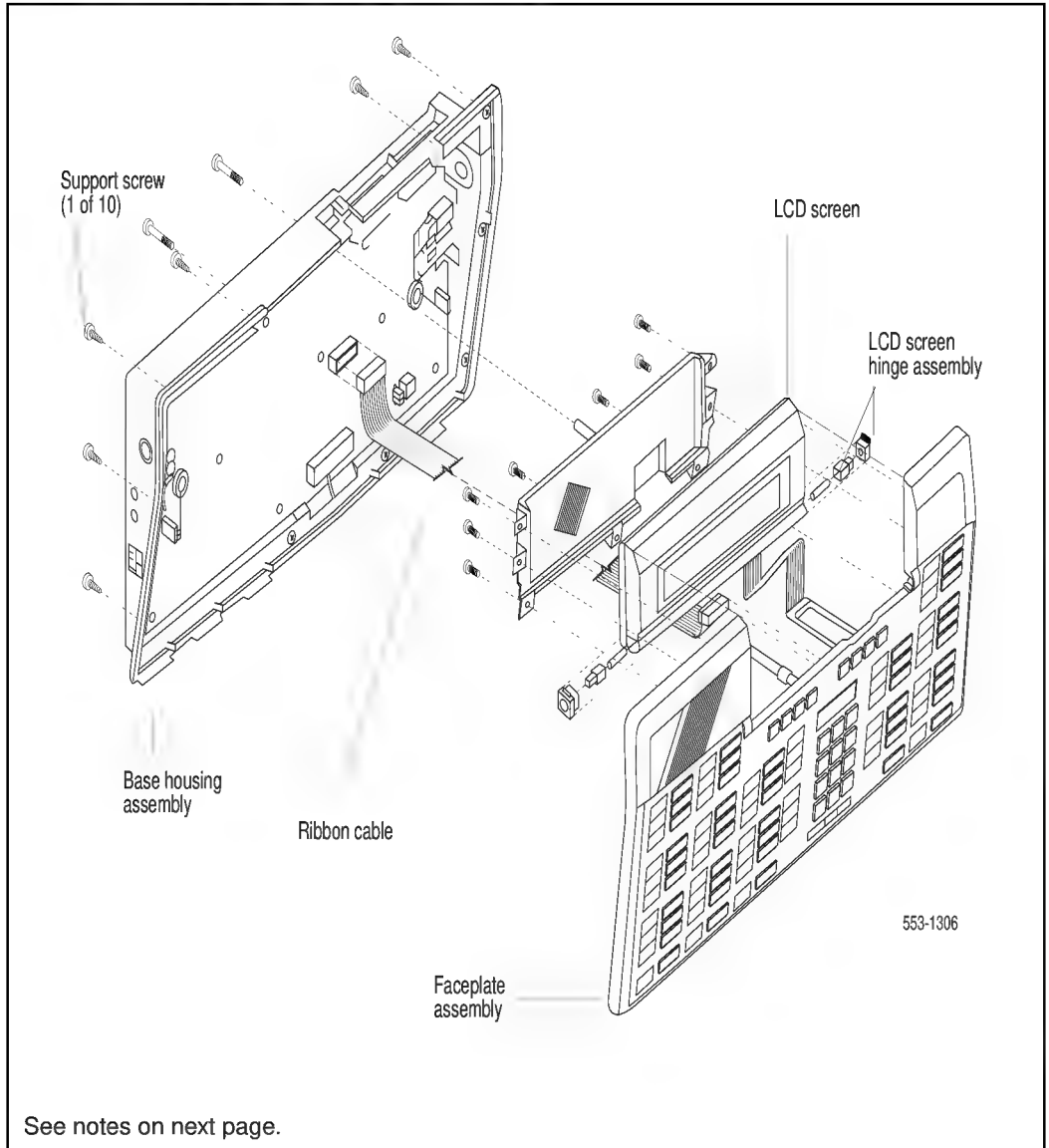
Note 2: The 25-V supply can also be obtained from two additional units on a line circuit card.

Note 3: Connect to Pin 3 or 28 of the appropriate PFJ5 terminal block.

Note 4: Connect TC to Pin 29 or 5 and ALM to Pin 4 or 31 of the appropriate PFJ5 terminal block.

Note 5: This applies to QPC297 and QPC61 circuit cards.

Figure 15
M2250 attendant console cross-connections



The following notes refer to [Figure 15](#), which illustrates the M2250 attendant console cross-connections.

Note 1: The M2250 is powered by means of the line circuits. In addition to the primary TN, secondary TN, and ASM TN, two TNs are cabled to the M2250 using the +AUX and –AUX leads. The maximum loop length is 3000 ft of 24 AWG wire.

Note 2: When additional options are used (BLF or display backlight option), an additional 16 V dc power supply is required. The 16 V dc source is cabled using +VPS and VPS RTN leads. The maximum distance from the console to the power source is 120 feet of 24 AWG wire. Please note if both options are installed, only one 16 V dc power supply is required.

Note 3: It is recommended that five consecutive TNs on the line circuit be allocated for each console.

Note 4: When used with the ISDL, the M2250 requires QPC578 vintage D or later.

Note 5: The third TN must be cross-connected to the console cable WH/SL pair whether or not an ASM (Attendant Supervisory Module) is installed. This third TN provides additional console power which is required.

[Table 5](#) explains where each M2250 cable pair is connected. [Table 6](#) lists the M2250 typical cross-connections.

Table 5
M2250 attendant console connections (Part 1 of 2)

Mounting cord	16/25-pair connector cable			
Lead designation	Pin number	Pair number	Color	Connected to
TCM primary	26	1T	W-BL	TN #1
	1	R	BL-W	
TCM secondary	27	2T	W-O	TN #2
	2	R	O-W	
Attendant Supervisory Module	30	5T	W-SL	TN #3
	5	R	SL-W	
Spare	31	6T	R-BL	
	6	R	BL-R	
+AUX	32	7T	R-O	TN #4
	7	R	O-R	
-AUX	33	8T	R-G	TN #5
	8	R	G-R	
Spare	34	9T	R-BR	
	9	R	BR-R	
Spare	35	10T	R-SL	
	10	R	SL-R	
Power Fail or Energy Transfer	36	11T	BK-BL	GND (Note 1)
	11	R	BL-BK	TC (Note 2)

Table 5
M2250 attendant console connections (Part 2 of 2)

Mounting cord Lead designation	16/25-pair connector cable			
	Pin number	Pair number	Color	Connected to
Spare	37	12T	BK-O	
Spare	12	R	O-BK	
Spare	38	13T	BK-G	
Spare	13	R	G-BK	
GND	39	14T	BK-BR	GND (Note 1)
Major Alarm	14	R	BR-BK	ALM (Note 2)
Spare	40	15T	BK-SL	
	15	R	SL-BK	
VPS	41	16T	Y-BL	
	16	R	BL-Y	
VPS RTN	42	17T	Y-O	
	17	R	O-Y	
Spare				
Code Blue	50	25T	Y-SL	Relay 2
	25	R	SL-Y	Relay 1
Note 1: Connect to Pin 3 or 28 of the appropriate PFJ5 terminal block. Note 2: Connect TC to Pin 29 or 5 and ALM to Pin 4 or 31 of the appropriate PFJ5 terminal block.				

Table 6
M2250 typical cross-connections (Part 1 of 2)

Pair	Pins	Pair Color	DLC Connections	ISDLC Connections
1T	26	W-BL	Unit	Unit
1R	1	BL-W	0	0
2T	27	W-O	Unit	Unit
2R	2	O-W	1	8
3T	28	W-G	Unit	Unit
3R	3	G-W	2	1
4T	29	W-BR	Unit	Unit
4R	4	BR-W	3	9
5T	30	W-S	Unit	Unit
5R	5	S-W	4	2
6T	31	R-BL	Unit	Unit
6R	6	BL-R	5	10
7T	32	R-O	Unit	Unit
7R	7	O-R	6	3
8T	33	R-G	Unit	Unit
8R	8	G-R	7	11
9T	34	R-BR	Unit	Unit
9R	9	BR-R	8	4
10T	35	R-S	Unit	Unit
10R	10	S-R	9	12
11T	36	BK-BL	Unit	Unit
11R	11	BL-BK	10	5
12T	37	BK-O	Unit	Unit
12R	12	O-BK	11	13

Table 6
M2250 typical cross-connections (Part 2 of 2)

Pair	Pins	Pair Color	DLC Connections	ISDLC Connections
13T	38	BK-G	Unit	Unit
13R	13	G-BK	12	6
14T	39	BK-BR	Unit	Unit
14R	14	BR-BK	13	14
15T	40	BK-S	Unit	Unit
15R	15	S-BK	14	7
16T	41	Y-BL	Unit	Unit
16R	16	BL-Y	15	15